AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A rolling device comprising an outer member and an inner member each having a raceway surface and rolling elements having a rolling surface interposed between the raceway ~~surface~~ surfaces of the outer member and the inner member and rolling on the raceway ~~surface~~ surfaces by rotational or linear movement of the outer member or the inner member in which

the outer member and/or the inner member comprises at least one ~~kind of titanium alloys of β~~ of beta (β) type titanium alloys, near beta (β) type titanium alloys and ~~α + β~~ alpha (α) + beta (β) type titanium ~~alloys~~ alloys,

wherein the outer member and/or the inner member has a raceway surface hardness from Hv 400 or more to Hv 592 or less.

2. (previously presented) A rolling device as defined in claim 1, wherein the outer member and/or the inner member has a raceway surface hardness of Hv 400 or more and less than Hv 600.

3. (currently amended) A rolling device as defined in claim 1, wherein the outer member and/or the inner member has a core hardness of Hv 420 or

more and has an oxygen compound layer at the raceway surface, and the oxygen compound layer comprises titanium oxide containing rutile type TiO_2 and has a thickness ~~of~~ from 20 nm or more to 95 nm or less.

4. (currently amended) A rolling device as defined in claim 3, wherein the core hardness of the outer member and/or the inner member is Hv 450 or more and the thickness of the oxygen compound layer comprises titanium oxide containing rutile type $Ti0_2$ is from 50 nm or more to 95 nm or less.

5. (currently amended) A rolling device as defined in claim 1, wherein the rolling ~~element comprises~~ elements comprise at least one ~~kind of materials~~ of titanium alloys, silicon nitride, silicon carbide, zirconia series ceramics, alumina series ceramics and SIALON series ceramics.

6. (currently amended) A rolling device comprising an outer member and an inner member each having a raceway surface, rolling elements having rolling surfaces interposed between the raceway surface of the outer member and the inner member and rolling on the raceway surface by rotational or linear movement of the outer member or the inner member and a cage for holding the rolling elements in which

the outer member and/or the inner member comprises one ~~kind of titanium alloys of β~~ of beta (β) type titanium alloys, ~~near β~~ near beta (β) type titanium alloys and ~~α + β~~ alpha (α) + beta (β) type titanium ~~alloy~~ alloys and the outer member and/or the inner member has a raceway surface hardness of Hv

400 or more and less than Hv ~~600~~ 592 and the cage has a heat conductivity of 20 W/(m·K) or more.

7. (currently amended) A rolling device as defined in claim 6, wherein the cage comprises one ~~kind of materials~~ of copper, tellurium copper, brass, aluminum bronze, phosphorus bronze, nickel silver, cupro nickel and beryllium copper.

8. (currently amended) A rolling device comprising an outer member and an inner member each having a raceway surface and rolling elements having rolling surfaces interposed between the raceway surface of the outer member and the inner member and rolling on the raceway surface by rotational or linear movement of the outer member or the inner member in which

at least one of the outer member, the inner member and the rolling elements comprises ~~a titanium alloy of β~~ beta (β) type titanium alloys, ~~near β~~ near beta (β) type titanium alloys and ~~α + β~~ alpha (α) + beta (β) type titanium alloys and one of the raceway ~~surface~~ surfaces of the outer ~~member,~~ member and the inner member and the rolling surfaces of the rolling elements has ~~an ω~~ omega (ω) phase with the size of the crystal particles of 1 μm or less.

9. (original) A rolling device as defined in claim 8, wherein the size of the crystal particles is 800 nm or less.

10. (original) A rolling device as defined in claim 8, wherein the size of the crystal particles is 10 nm or less.

11. (original) A rolling device as defined in claim 1, wherein the outer member and/or the inner member has a hard film on the raceway surface.

12. (original) A rolling device as defined in claim 11, wherein the raceway surface formed with the hard film has a surface hardness of Hv of 350 or more.

13. (original) A rolling device as defined in claim 11, wherein the raceway surface formed with the hard film has a surface hardness of Hv of 450 or more.

14. (currently amended) A rolling device as defined in claim 11, wherein the hard film comprises at least one ~~kind of materials~~ of TiN, TiC, TiCN, TiAlN, CrN, SiC and diamond-like carbon.

15. (original) A rolling device as defined in claim 11, wherein the outer member and/or the inner member has a lubricating film of 0.1 μm to 10 μm on the hard film.

16. (original) A rolling device as defined in claim 11, wherein the outer member and/or inner member has a lubricating film of 0.1 μm to 5 μm on the hard film.

17. (currently amended) A rolling device as defined in claim 1, wherein the rolling ~~element comprises~~ elements comprise a superhard alloy or cermet.

18. (currently amended) A rolling device as defined in claim 17, wherein the rolling ~~element has~~ elements have a heat conductivity of 35 W/(m·K) or more.

19. (currently amended) A rolling device as defined in claim 17, wherein the rolling ~~element has~~ elements have a heat conductivity of 50 W/(m·K) or more.

20. (currently amended) A rolling device as defined in claim 1, wherein the rolling ~~element has~~ elements have a surface hardening layer comprising an iron and steel material and has a corrosion resistance on the surface.

21. (currently amended) A rolling device as defined in claim 20, wherein the ~~raceway~~ surface hardening layer is formed by applying a chromium diffusion penetration treatment on the surface of a base material comprising the rolling ~~element~~ elements.

22. (currently amended) A rolling device as defined in claim 20, wherein the ~~raceway~~ surface hardening layer contains a nitride layer formed by applying a nitridation treatment to the surface of a base material comprising the rolling ~~element~~ elements.

23. (currently amended) A rolling device as defined in claim 1, wherein the at least one titanium alloy satisfies the condition: $3.7 \leqq (H/E)$ where E (Gpa) represents the Young's modulus and H (Hv) represents the minimum hardness ~~for the portion~~ from the raceway surface to a depth ~~corresponding to~~ of 2/100 to 5/100 ~~for~~ of the diameter of the rolling ~~element~~ elements.

24. (currently amended) A rolling device as defined in claim 1, wherein the at least one titanium alloy satisfies the condition: $4.0 \leqq (H/E)$ where E (Gpa) represents the Young's modulus and H (Hv) represents the minimum hardness ~~for the portion~~ from the raceway surface to a depth ~~corresponding to~~ of 2/100 to 5/100 ~~for~~ of the diameter of the rolling ~~element~~ elements.

25. (original) A rolling device as defined in claim 23 or 24 wherein (H/E) is 4.5 or less.

26. (currently amended) A rolling device as defined in claim 1, wherein the ratio α_2/α_1 between the heat expansion coefficient α_1 of the outer member ~~and~~ and/or the inner member and the heat expansion coefficient α_2 of the rolling ~~element~~ elements is within a range of 0.4 to 1.3.

27. (original) A rolling device as defined in claim 1, wherein the rolling device further comprises a shield plate for shielding an opening formed between the outer member and the inner member and the shield plate is formed of titanium at a purity of 99.5% or higher.

28. (currently amended) A rolling device as defined in claim 26, wherein each of the outer member and the inner member ~~each~~ has an oxide film containing TiO_x (x = 0 - 2) on its ~~the~~ surface.

29. (currently amended) A rolling device as defined in any one of claims 8, 11, 16, 19, ~~22,~~ 25 and 26 wherein the rolling ~~element comprises~~ elements comprise at least one ~~kind of materials~~ of titanium alloys, silicon nitride, silicon carbide, zirconia series ceramics, alumina series ceramics and SIALON series ceramics.

30. (currently amended) A rolling device as defined in any one claims 2, 11, 16, 19, 22, 25 and 26 wherein the rolling device further comprises a cage for holding the rolling elements and the cage comprises one ~~kind of materials~~ of copper, tellurium copper, brass, aluminum bronze, phosphorus bronze, nickel silver, cupro nickel and beryllium copper.